

Claims:

1. A device for measuring commodity utilization, the device comprising:

a transducer operable to sense a physical characteristic of the commodity and generate commodity utilization data based on the physical characteristic;

5 a controller operable to be coupled to the transducer to process the commodity utilization data; and

a network communication section operatively coupled to the controller, and having a plurality of network modules including a local area network module, and a wide area network module, and wherein the network communication section is configured to
10 communicate data comprising the processed commodity utilization data with either one or both of the network modules.
2. The device of claim 1, and wherein the controller is programmed to select either one or both of the local area network module and the wide area network module of the network communication section.
- 15 3. The device of claim 1, and wherein the communication network section further comprises a plug-in network interface module configured to interface with either a local area network device or a wide area network device.
4. The device of claim 1, and wherein the communication network section comprises a narrowband personal communication service ("PCS") interface.
- 20 5. The device of claim 3, and wherein the communication network section comprises a power line carrier ("PLC") interface.
6. The device of claim 1, further comprising a level translator operatively coupled to the transducer to condition the commodity utilization data.
7. The device of claim 1, and wherein the transducer further comprises a voltage
25 interface transducer.

8. The device of claim 1, and wherein the transducer further comprises a current interface transducer.
9. The device of claim 1, further comprising a display operatively coupled to the controller to display the processed commodity utilization data.
- 5 10. The device of claim 1, further comprising an antenna operatively coupled to the network communication section to transmit and receive the data.
11. The device of claim 1, and wherein the network communication section further comprises a spread spectrum processor to spectrally spread a radio frequency signal.
12. The device of claim 11, and wherein the network communication section further
10 comprises a radio frequency transceiver to transmit and receive a spectrally spread radio frequency signal.
13. The device of claim 12, and wherein the radio frequency transceiver further comprises a frequency synthesizer operable to modulate the spectrally spread radio frequency signal.
- 15 14. The device of claim 1, and wherein the controller comprises a programmable controller.
15. The device of claim 1, wherein the device is an electric meter.
16. A measuring device comprising:
- a transducer for sensing a physical characteristic of a commodity and generate
20 therefrom commodity utilization data;
- a controller for processing the commodity utilization data; and
- a network communication section for communicating data comprising the processed commodity utilization data with either one or both of a local area network module and a wide area network module, and being operatively coupled to the controller.

17. The measuring device of claim 16, and wherein the controller is programmed to select from either one or both of the local area network module and the wide area network module of the network communication section.
18. The measuring device of claim 16, and wherein the communication network
5 section further comprises a plug-in network interface module.
19. The measuring device of claim 16, and wherein the communication network section comprises a narrowband personal communication service ("PCS") interface.
20. The measuring device of claim 16, and wherein the communication network section comprises a power line carrier ("PLC") interface.
- 10 21. The measuring device of claim 16, further comprising a level translator for conditioning the commodity utilization data.
22. The measuring device of claim 16, and wherein the transducer means further comprises a voltage interface transducer for sensing a voltage level.
23. The measuring device of claim 16, and wherein the transducer means further
15 comprises a current interface transducer for sensing a current level.
24. The measuring device of claim 16, further comprising a display for displaying the processed commodity utilization data.
25. The measuring device of claim 16, further comprising an antenna for transmitting and receiving the data.
- 20 26. The measuring device of claim 16, and wherein the network communication section further comprises a spread spectrum processor for spectrally spreading a radio frequency signal.
27. The measuring device of claim 26, and wherein the network communication section further comprises a radio frequency transceiver for transmitting and receiving a
25 spectrally spread radio frequency signal.

28. The measuring device of claim 27, and wherein the radio frequency transceiver comprises a frequency synthesizer for modulating the spectrally spread radio frequency signal.
29. The measuring device of claim 16, and wherein the controller comprises a
5 programmable controller.
30. The measuring device of claim 16, wherein the device is an electric meter.
31. A method of measuring commodity utilization, the method comprising the acts of:
- sensing a physical characteristic of a commodity;
- processing commodity utilization data based on the sensed physical characteristic;
- 10 selecting from a network communication section either one or both of a local area network module and a wide area network module; and
- communicating data comprising the processed commodity utilization data with either one or both of the local area network module and the wide area network module.
32. The method of claim 31, further comprising programming a controller to select
15 either one or both of the local area network module and the wide area network module of the network communication section.
33. The method of claim 31, and wherein the network communication section comprises a narrowband personal communication services ("PCS") device.
34. The method of claim 31, and wherein the network communication section
20 comprises a power line carrier ("PLC") device.
35. The method of claim 31, further comprising the acts of sensing a voltage level with a voltage interface transducer.
36. The method of claim 31, further comprising the acts of sensing a current level with a current interface transducer.

37. The method of claim 31, further comprising the acts of displaying the processed commodity utilization data.

38. The method of claim 31, further comprising the acts of transmitting and receiving the data at an antenna.

5 39. The method of claim 31, further comprising the act of spectrally spreading a radio frequency signal based on the commodity utilization data.

40. The method of claim 31, further comprising the act of transmitting and receiving a spectrally spread radio frequency signal.

10 41. The method of claim 31, further comprising the act of modulating the spectrally spread radio frequency signal.

42. The method of claim 31, wherein the commodity comprises electricity and wherein the method further comprises the act of performing sensing the physical characteristic of the electricity at an electric meter.